



PROMISING PROGRAM

The WEB Project

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PROGRAM DESCRIPTION

The WEB Project created a consortium of community organizations, small businesses, and educational institutions, which collaboratively learned how to employ new technologies to effect systemic reform in school systems throughout Vermont. The Project, based in Putney, Vermont, is designed for students in grades 2–12. It utilizes multimedia production and telecommunications as: (a) an educational environment for student inquiry and expression; (b) a medium for presenting and assessing student work; and (c) a virtual faculty room for professional discussions about work.

Begun in 1995, the WEB Project has developed systems for the dynamic use of multimedia and telecommunications to improve student learning in the Vermont Vital Results—communication, problem solving, civic responsibility, and personal development—as they apply to arts, language, literature, history, and social studies. Partnership initiatives include sharing music compositions, art projects, literature, and historical research online within the context of specified learning goals. Each initiative specifies standards that students will reach as a result of participation.

QUALITY AND EDUCATIONAL SIGNIFICANCE

LEARNING

The WEB Project uses current multimedia technology as a tool to provide opportunities for students to gather rich source materials; solve problems focused on content; critique their own work as a natural part of the production process; determine trade-offs between time, quality, and technological limitations; create new knowledge; and express themselves artistically. Several studies cited by the Web Project indicate that the multimedia and music composition activities lead to complex learning and provide evidence that student learning is improving in important and complex areas.

Multimedia production requires teamwork. Collaborative problem solving and design adds a dynamic, real-world connection to student experiences.

Through the WEB Project process, students learn how to realize their intentions more fully by learning, for example, how to differentiate foreground from background more clearly; how to use shading to give a drawing more dimension; and how to focus the viewer's attention on the important elements of a drawing or sculpture. In the virtual faculty room, for example, teachers discussed a disturbing drawing ("Cop Killer") posted by a student. They covered the issue of censorship, suggesting that

PROGRAM COSTS

For cost information, please contact program designee.

students practice voluntary restraint, and asking the “Cop Killer” artist what his intention was. Upon asking, his teacher was surprised to learn that he had seen a photograph of a teenager killed by police while throwing grenades and wanted to warn other kids to think about the consequences of their actions. This led to further discussions among students and mentors about censorship, the need to inquire before drawing conclusions, and the power of images, presentation, and labeling, among other issues.

Student interviews held across Vermont in 1995 by the coordinator of the Vermont Assessment Project revealed that students want two types of input about their work: where they stand (yardstick) and how to make what they are doing better (reflection and critique of work in progress). The WEB Project translated these ideas into a Web-based system that gathers and exhibits multimedia forms of student performance while simultaneously offering support for reflection and critique. Students report feeling more motivated because of their access to online mentors who take their work seriously. The emphasis on multiple forms of evidence of learning impels students to show what they know in many ways. The following quote, from a parent whose son worked on a multimedia team investigating community memories of World War II, is one illustration of the depth of engagement, complexity, and relevance of the resultant learning:

I was thinking that if you knew Matt by whether he wrote his essays or not...you would think of him as a totally different kind of student than you get from watching him do a technology project...For me, it was a chance to see that this young man is really engaging in positive ways in the world which I don't see in terms of his responses to homework and things like that. He came home and talked about this a lot. He related it to contemporary events. It wasn't just that he learned about World War II. He talked about issues of race and gender that were going on at the time. He was saying that the sociocultural climate was really different in the thirties and forties than it is now.

EXCELLENCE FOR ALL

By design, the WEB Project serves all students. It contributes to excellence for all students, from talented and gifted to students in danger of dropping out or failing.

ORGANIZATIONAL CHANGE

The WEB Project design focuses on reform at all levels. It has engaged preservice teachers and university faculty in online mentoring. An action research course has been developed for teachers and potential trainers to improve their programs through the use of technology. The challenge for organizational change even reached the evaluators, who generated a new model—based on theories of change, systems approaches, and participatory evaluation—of how they believe student learning is best mediated through technology.

USEFULNESS TO OTHERS

The WEB Project is highly adaptable to any subject area and is particularly effective at overcoming traditional barriers of access, representation, socioeconomic conditions, as well as ethnic and gender bias. The online faculty room offers immediately relevant professional development in core content and includes mentoring in the use of technology in teaching and learning. The project also supports core discipline practices that had been absent in the lives of many teachers. For example, prior to the WEB Project, Vermont music teachers neither composed music nor taught composition, yet composition is the *raison d'être* of music. Now, Vermont music teachers are acquiring and transmitting the core skills and activities practiced by their real-world counterparts.

To gain the benefits of the WEB Project, schools, community organizations, and state departments need low-cost hardware and software. A new project implementation without existing infrastructure would need to establish or secure a network connection for each participant and mentor, establish a Web site with the online tools developed by or adapted from WEB Project examples, then find, train, and support personnel to be online content mentors. (Small districts such as those found in rural states like Vermont should band together at a statewide level to increase the number of effective professionals and teachers in the work; large districts are likely to have ample human resources at hand.) Four or five mentors may be needed in a content area to effectively serve up to 2,000 students and 100 teachers at a time, assuming that students work in groups and use mentors only when responses to work or inquiries about content are not available locally.

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The Project has spent the last 5 years building capacity so that current participants would have the skills needed to continue in the absence of federal funding. People who use the multimedia and telecommunications tools well can now be found in all locations around Vermont, providing people-to-people contact when needed for new users.

Perhaps the primary contribution of the WEB Project has been the creation of a permanent online program enhancement for all schools in Vermont, which consists of a virtual space where student and teacher work can be critiqued by the professionals in the arts and humanities community.

EVIDENCE OF EFFECTIVENESS

A variety of measures were used to evaluate the effectiveness of the WEB Project. These included an online survey, student survey, classroom observations, document and artifact analyses, teacher focus groups and interviews, student focus groups, and interviews with curriculum coordinators, initiative coordinators, and program coordinators. In addition, student results were measured by teacher-created student product assessments and selected process rubrics.

The research associated with the WEB Project demonstrates that students and collaborating organizations have engaged in rich and substantive online discussion. The project has helped school districts in the state to align instruction with the Vermont State Frameworks. As a result of their participation in the WEB Project, students improve their technology skills as well as their performance in the arts by engaging in discussion with mentor experts. There is greater student engagement in learning tasks when students are using the technology to design and deliver products and performances than when working on traditional classroom projects or assignments. In addition, students exhibited increased time on task.

More than half of the students used the technology to ask experts for feedback; 65 percent revised their products at least once based on critiques and feedback from experts and mentors. Measures taken at one school where control and experimental groups for arts and technology were observed revealed test score gains in problem solving for low-performing math students.

Student work was recognized in a host of arenas. One student's videotape of the town's activity to clean up the river was broadcast on a local television program. Another student created portfolio pieces that were used by the local Chamber of Commerce. A talented senior received a full 4-year university scholarship as a result of his multimedia skills. Two high school students obtained part-time positions as multimedia designers with local corporations after school and during the summer. Two teachers at different schools in one district observed improvements in social behavior, attendance, morale, and attention span for several troubled students, which transferred to other core courses. And finally, one failing student who was repeating his senior year obtained an internship with a local artist and has had several offers to buy his work.